

BORCK (E.)

DR. EDWARD BORCK'S

SLEEVE BANDAGE

For Fracture of the Clavicle.

Fractures and 

 Dislocations

Of Radius and Ulna.



WEISS & MACCALLUM, PRINTERS, 3737 N. BROADWAY,

ST. LOUIS, MO.



PART I.

DR. EDWARD BORCK'S
SLEEVE BANDAGE
For Fracture of the Clavicle.

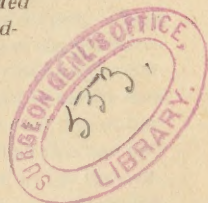
"Reprint from *Medical Mirror*, February 1896, with
Five Illustrations."

PART II.

Fractures and Dislocations,
RADIUS AND ULNA.

By EDW. BORCK, A. M. M. D.,
ST. LOUIS, MO.

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Am. Med. Ass. Mem. and Vice-Pres. Mo. State Med. Ass. Mem.
Southwestern Ass. of Railway Surgeons, Mem. and Ex-Vice-
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Vol. Delegate to 8th International
Medical Congress, Copenhagen Den-
mark and 10th International
Med. Congress, Berlin,
etc., etc.



"Reprint from *Medical Mirror*, November 1895, with
Four Illustrations and Addendums."

DR. EDWARD BORCK'S

Sleeve Bandage for Fracture of the Clavicle.

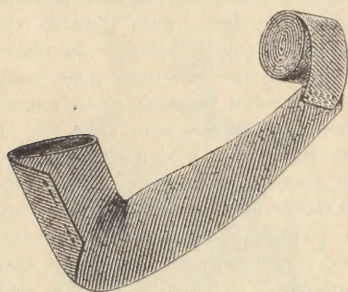


Fig. 1.

structure and development of that bone, and has accurately in mind, the articulation, and the action of the attached muscles.

Out of the two hundred and ninety-five cases of fractures and dislocations, treated by me at my late Private Surgical Home, from April 1, 1885 to June 1, 1893, (see report in *Medical Mirror*, October number 1894), thirty-three cases were fractures of the clavicle; nine of these cases were adult males, of which eight were on the right side, and one upon the left side, twenty-four were children of whom fifteen were boys, right side eleven, left side four; nine were girls, right side seven, left side two.

The diagnosis presents no difficulty if one is acquainted with the

OBSERVATION.

In all these cases the fracture was oblique and occurred between the clavicular region of the sterno-cleido-mastoid and trapezius muscles. Fractures beginning from the sternal extremity running obliquely downward to the acromial extremity of the clavicle, were predominant, the latter piece elevated above and sometimes overriding the former. These injuries are not so easily kept in position. The reverse were the fractures that began from the acromial extremity and extended obliquely downward to the sternal extremity, there was no overlapping of either broken piece. These are more easily managed. From above downward is understood the line of fracture from left to right, or right to left as the case presents. As a rule these fractures are due to direct violence to the clavicle, pressing or pushing the bone from outward, inwards. It is easily understood why fractures of the clavicle in the locality mentioned are predominant. The prognosis is generally favorable. All of these cases recovered with little or no deformity under the following

TREATMENT.

I first adjust the fractured pieces in position by manipulation. "For instance the left arm." I then lay the fore arm of the injured side in the sleeve, then bring the hand towards the sound right shoulder as far up as required to keep the fragments in place, then I fasten the sleeve around the upper arm with pins; now the bandage is brought over the sound right shoulder, obliquely down the back toward the left elbow, then under the elbow, and up in front of the left arm over the fractured left clavicle and left shoulder, obliquely down the back to the right and

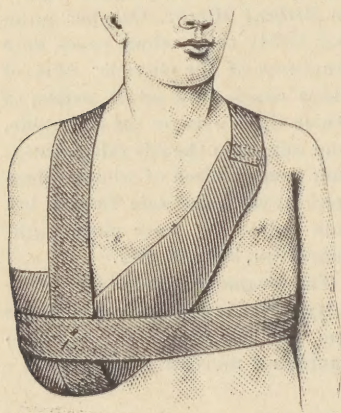


Fig. II. Front.

around the chest again towards the left elbow and fastened in place. From here the bandage goes completely around the body, and pinned in front of the left arm near the elbow. Now you can see if your fracture is in correct apposition. You can pull the arm up or let it down, bring the arm to or from the body, push it forward or backward just as required. You may need a pad over the fracture or in the axilla, or you may not, as the case may be, and as your judgment dictates. With a little patience you will succeed. After everything is in good

order fasten the bandage with safety pins wherever they cross. See figures II and III. This bandage is well adapted where the fracture extends from the sternal to the acromial extremity. When the fracture is the reverse I apply my bandage thus: proceed as before, the hand resting upon chest, the tips of the fingers toward the sound right shoulder, the bandage goes around the neck over the left shoulder, across the left fractured clavicle, down anteriorly upon the left arm and under the elbow,

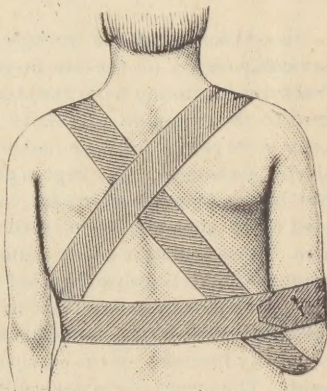


Fig. III. Back.

up on the posterior side of the left arm, again over the left shoulder and fractured clavicle, then obliquely over the left forearm, towards and around the right side of the chest, and straight over the back toward the left elbow, and here fastened. It takes about three yards of bandage one and one half to two inches wide, if longer it may be rolled out as in the preceding manner. See figures IV and V.

The sleeve and bandage must be made of previously washed, strong and stout muslin. I always keep a dozen on hand for immediate use. This is light, comfortable and easy to manage, can be readjusted without removing the apparatus and without disturbing the fracture, the hand cannot slip but still has motion, and the arm can occasionally be relieved of an uncomfortable position, etc, etc. It has many advantages over other appliances and has served me well.

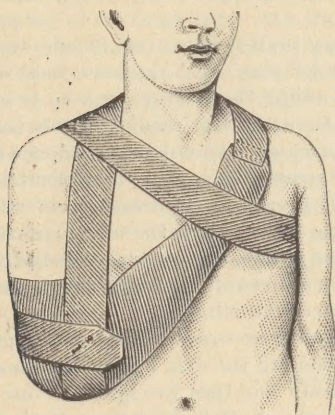


Fig. iv. Front.

tate the skin. Apply the sleeve bandage. In children there will be complete union in twelve to eighteen days, in adults from thirty to forty.

REMARKS.

The directions given in the text books for replacing these fractures, upwards, outwards, backward, etc., they do well enough as a general guidance, but will not answer in every case, and the strapping of the forearm with adhesive plaster or any other similar material obliquely across the chest which allows of no

Where the displacement is great, a splint can be applied direct to the fractured clavicle, in persons that are lean and the bone very prominent, as follows:—Take a piece of Hood & Reynold's dental modelling composition, soften in hot water, flatten it out to a proper thickness, and cut into a strip the length and breadth required, soften again in hot water and dry with a towel, then press or mould it firmly over the clavicle while holding the parts in apposition, exhausting all the air, it acts like a cupping glass, it will stay and not irri-

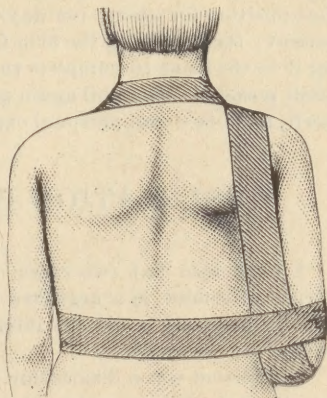


Fig. v. Back.

motion to the forearm and hand is very undesirable. I have found by extending the arm the fragments move in their place with ease and by slowly bringing the arm towards the body, are maintained in their position, and can be so maintained by my simple sleeve bandage.

First of all one must obtain the confidence of the patient that you will not hurt him, and the patient must be taught to keep his limbs perfectly relaxed and make no resistance. The dropping down of the shoulder is not produced by the fracture, but more by the habit of the patient to let it sink down to allay the pain, or in other cases will move the shoulder unnaturally up for the same purpose. By teaching the patients tranquility and impressing upon them the importance of keeping the arm relaxed, and in addition with the surgeon's close watching every day for at least eight or ten days, one can always obtain good results.

Here is an interesting case. A very pretty, blue eyed, blonde and obedient girl of ten years fractured her left clavicle; I applied my sleeve bandage, but in this case I could not adapt the fracture or keep it in place to my satisfaction, I dressed it in the afternoon, readjusted it in the evening, again the next morning and evening, and notwithstanding all care on my part and all the assistance rendered by my admirable little patient, it was not to my satisfaction. I removed the dressing, extended the arm slowly, and while moving the arm towards the body forward the fragments did not completely return to their proper place. I slowly extended the arm again, bringing the arm towards the body, moving it in a backward direction, bringing the arm and elbow close to the body and the two fragments adapted themselves accurately with ease, and without any perceptible pain, I now extended the arm again, bringing the arm and elbow down toward the body and then brought the forearm behind upon the back. The fragments kept in perfect position, I applied my sleeve bandage reversing the appliances and kept the arm in that position for about ten days without any discomfort to the little patient; then relieving the arm from this position and carefully bringing it to the front to complete the cure. Here I obtained the very best result possible. This will again prove that each case rests upon its own merit, and one's own personal experience is his best authority.

DISLOCATION OF THE CLAVICLE.

I have seen but two cases, one in an adult, a dislocation of the sternal extremity, in a neglected case of long standing, nothing was done for him, and it did not interfere with the motion of the arm or produce any discomfort.

The second was a dislocation of the left clavicle at the acromial extremity in a child six weeks old, the clavicle was standing almost verti-

cal, drawn upwards by the sterno cleido-mastoid muscle. This, no doubt, was congenital; observed by Dr. G. A. Herzog the physician in this case soon after birth; the child could move the arm perfectly in all directions.

Fractures of the clavicle occur more frequent than we suppose, I judge from the fact that many children have been brought to me by their parents to inquire what "that lump" meant upon the neck that had grown there for some time. The lump or tumor is nothing more or less than the callus which had united the over-lapping fragments without any treatment. The parents never observed the injury until they perceived the "lump."

Now one word. Whenever there is a so-called enormous callus formed after union of any broken bone, there is always present over-lapping of the fragments. If a fracture has been properly adjusted and kept in position, there will never be such an enormous callus.

In conclusion permit me to say. First, I have only stated my own personal experience and observations. Second, of these thirty-three cases treated during the time stated, I kept a close record, and most of them under my eye for a long period after the recovery. Third, that in a quarter of a century of surgical practice prior to 1885, during which time I tried the various modes and the different appliances recommended, none have served me so well as my simple sleeve bandage in this class of fractures, and others who followed my plan of treatment, had no reasons for regret.

PART II.

FRACTURES AND DISLOCATIONS.*

RADIUS AND ULNA.

Cases 105. Fractures 41. Of these 30 were adults: male 27, right arm 24, left arm 3; female 3, right arm 3; of the male were compound comminuted fractures 2, left arm 1; right arm 1. Fracture in upper third both bones, 1; fracture in the middle of radius, 2; fracture of the lower third of radius, 12. Of the female both bones were fractured in the middle, 2; lower third of radius, 1.

Children 11: boys 9; right arm 8, left arm 1; fracture of both bones in the middle, 2; lower third of radius, 7; girls 2, right arm 1, left arm 1; both bones in the middle, 1; lower third of radius, 1.

Dislocations, 64. Of these were adults 36: male 31; right arm 28, left arm 3. Dislocation at elbow, ulna and radius backwards, 25; ulna backwards, 2; radius forward, 1; wrist, upon dorsal side 2, upon flexor side 1; female 5, right arm 4, left arm 1; dislocation at elbow, both bones backward, 5. Children 28: boys 21; right arm 27, left arm 1; at elbow: ulna and radius backward, 11; radius only backward, 7; forward 1; girls 7. Right arm 7, both bones backwards dislocations.

OBSERVATIONS.

It will be seen that in this class of injuries, the dislocations are predominant; that the female sex is the more fortunate; that the right arm is by far more exposed to injuries than the left; that in fracture of the radius the lower third takes the lead; in dislocation, the radius and ulna at the elbow joint; that with children dislocations occur to more than twice the number than fractures. The reasons for this are conceivable to every one. Remarkable however is it that out of the 9 injuries to left arm, 5 of these patients were left handed.

*For other fractures see *Medical Mirror* beginning with October number 1894, and continues during 1895.

TREATMENT.

Fractures of the middle of one or both the bones, as well as the fractures of the radius in the lower third, I treat with a single straight wooden splint. Before I replace a fracture, I take a piece of thin board, place the uninjured arm upon it with the flexor side, and with a pencil, holding it perpendicular, mark the contour of the arm and hand, and cut it out; a pencil line is drawn across that part where the metacarpal phalangeal joint is to rest, and sawed off to leave the fingers free. This splint is then well padded with cotton or oakum bandaged to the splint; now I adjust my fracture and apply my splint, taking care to fill up all hollow spaces, remembering we cannot treat a crooked bone satisfactorily upon a straight plane; the splint has to be adapted to the contour of the bone, not the bone to the splint. And while I bandage the arm the patient grasps the splint with his fingers, holding the splint in his hand, after that the fingers have free play; I never let my splints run out beyond the fingers and keep them in a straight position; I permit free use of the fingers.

In fracture of the upper third of these bones, I use a metal splint applied to the ulnar side, extending up to the upper arm, hand and fingers free.

In the two cases of U. C. fracture I employed a dorsal metal splint; keeping the forearm in a dorsal position. The dorsal position in fractures of the forearm has been employed with very good results.

To adjust a fracture of the forearm in the middle or lower third, especially the radius, without an assistant: Seat your patient in a chair; apply a figure of eight bandage around the hand and tie below the metacarpal phalangeal joint of the little finger; tie the ends of the bandage into a loop; having placed the arm in the usual position, flexed at right angle, thumb up, hang the loop over a hook fastened into the wall, in a horizontal line with the elbow, and the patient with his other hand supports and holds the elbow, and makes slight extension, while you correct the broken bone. Apply any kind of splint to your own fancy. I use tar board as a general rule: an elegant splint can be made with the dental moulding composition number 2, specially adapted to fracture of lower third of radius.

Take a whole piece of the composition, put it into warm water until soft, and flatten it out, repeat as often as necessary, dry with a towel and while soft apply over the radial side like a bracelet; mould it with a piece of cloth or bandage, not with your fingers, and keep in place with a roller bandage. It dries quickly, does not irritate the skin, is clean and neat.

Dislocation of the wrist after reduction I treat upon a metal splint applied to the flexor side, lightly bandaged; fingers free, motion allowed, thereby avoiding the after trouble of passive motion.

Dislocation of the elbow joints: I never employ any kind of splint; simply rest in a sling. This mode of treatment has given me and my patients great satisfaction.

Dislocation of the head of the radius is the most difficult to treat. If we do succeed in bringing it into its proper place, it is still more difficult to keep it there. I feel confident that a simple dislocation of the head of the radius is seldom completely reduced and kept in place; I know it has been the case with me. I am satisfied if I can keep such dislocations as nearly as possible in its proper place: I will have good results anyway, for nature does the work for me by throwing out plastic material enough for repair. It is especially difficult in young children to recognize a dislocation of the head of the radius, or a fracture of the neck. I believe that both are often mistaken for separation of the epiphysis. Here again mother nature comes to our assistance: they get well without loss of function.

REMARKS.

It will be seen that dislocations of the wrist happen but seldom. My opinion is that fractures of the lower third of the radius, or partial fractures, are mistaken for dislocations. There ought not to be any difficulty in the diagnosis; it seems to me easy enough, if one studies well the sound bones in their natural relations, and has the topographical anatomy clearly in his mind and fingers and proceeds systematically.

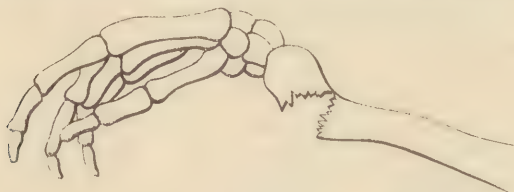


Fig. 1.

Look a moment at the drawings. Fig. 1 represents a fracture of the lower part of the radius. The instant the fracture takes place that moment almost the whole upper part of the radius is drawn towards the flexor side of the forearm, the lower part remains towards the dorsal side, with the hand attached and hanging down. Therefore in adapting such fracture the hand should be held steady, and the upper part pressed up and towards the lower end, instead of the reverse.

Fig. 2. represents the abnormal contours of the wrist in fracture of the lower end. Upon the flexor side, an arching; upon the dorsal, a depression. Press upon the depression on the dorsal side and you will have more arching upon the flexor. This cannot be done if there is no fracture.



Fig. ii.

Figs. 3 and 4 represent the two dislocations. They explain themselves by noticing the difference of the contour: the outline of the bones can be felt with the finger. The diagnosis between a fracture and a dislocation can always be made correctly by simply measuring from the process stiloidens radii to any given point upon the hand; in dislocation the distance is shorter, in fracture it is normal.



Fig. iii.



Fig. iv.

The reduction of these dislocations is easy and, as a rule can be done without chloroform. The easiest way is as follows: The patient standing erect with the arms pending in a perfectly easy, relaxed, natural position: the surgeon kneels down, grasping with one hand the upper part, with the other hand the hand of the patient and proceeds in the usual way. Try this.

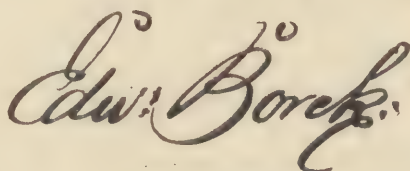
ADDENDUM.

Instead of the ordinary roller bandage a light rubber bandage is preferable in some cases, I often apply it after reduction of a dislocation of the wrist, exclusive to any other dressing.

The rubber bandage is also very useful to correct certain deformities, after a fracture has been united, such as bending of the bones.

Here a case: A girl about 14 years of age broke her right forearm, middle of radius and ulna. I treated the arm upon the straight, single splint as already described. In time I removed the apparatus, there was seemingly bony union, the arm was normal and function perfect. About two months later I saw her passing carrying a pitcher in her hand, and noticed a decisive bending of the arm concave towards the inside. I immediately went to her house and called attention to my observation. I am not certain whether a partly reabsorption of the callus had taken place here or whether bony union was not perfect at the time the splint was removed. Contraction of the muscles no doubt produced the deformity by the too early use of the arm in this case. I could not straighten the arm by manipulation. I put the arm upon a straight wooden splint and applied a strong rubber bandage, tightening same from time to time, and succeeded in correcting this sequel by the gradual counter-pressure of the rubber bandage in about two weeks. Result permanent.

I would also refer the reader to my clinical lecture, "Dislocations and Fractures of the Wrist," with eight illustrations and cases: Leonard's Illst. Med. Jour., vol. VI. No. 4, Oct. 1885, Detroit Mich.

A large, elegant handwritten signature in cursive script, reading "Edw. Borchers". The signature is written in dark ink and occupies the lower right portion of the page.

4112 N. Grand Av.,
St. Louis Mo.

MEMORANDUM OF
Dr. Edward Borck's
CONTRIBUTIONS TOWARDS
Medical and Surgical Literature.

—1871—

On the Use of Bromide of Potassium in Malarial Diseases.—*The Medical Archives.* St. Louis, July, 1871.

Subcutaneous Injections of Ergotine in Affections of the Uterus.—*The Medical Archives.* St. Louis, August, 1871.

Hypodermic Injections.—*The Medical Archives.* St. Louis, October, 1871.

—1874—

Staphyloma.—*Missouri Clinical Record.* September, 1874.

—1875—

On Bronchocele.—*St. Louis Medical and Surgical Journal.* March, 1875. 1 INQUIRY.*

—1878—

Fracture of the Femur.—*St. Louis Medical and Surgical Journal.* January, 1878, also *Deutsche Zeitschrift fuer Chirurgie*, Leipzig.

Review on the Treatment of Fracture of the Femur. Three Woodcuts.—*St. Louis Medical and Surgical Journal.* March, 1878.

Ovariectomy: Reported Cases of.—*St. Louis Medical and Surgical Journal.* April, 1878; July, 1878; and December, 1878.

—1879—

Cyst Elevator: Description of, and Method of Operating. Three Illustrations.—*Cincinnati Obstetric Gazette.* February, 1879, also *Illust. Vierteljahrsschrift de ärztlichen Polytechnick.* Bern u. Leipzig.

Fracture of the Femur. Compound Comminuted.—*Proceedings of the St. Louis Medical Society.* May, 31, 1879.

Compound Comminuted Fracture of the Right Fore-arm.—*Proceedings of the St. Louis Medical Society.* June 28, 1879.

Reflections upon the History and Progress of the Surgical Treatment of Wounds and Inflammations. (Report on Progress of Surgery.—*Transactions of the Medical Association of the State of Missouri.* June 1879.

Monograph on Fracture of the Femur, with fourteen handsome Illustrations. Second Edition. Published by Rumbold & Co., St. Louis, Mo. Price 50 cents. Out of Print. Nearly 2,000 copies were sold.

—1880—

Operations for Harelip.—*Proceedings of the St. Louis Med. Society.* February 21, 1880.

Ovarian Tumors: At what Stage of the Disease is it the Proper Time to Operate?—*Cincinnati Obstetric Gazette.* March, 1880. 101 INQUIRIES.

* By the number of Inquiries is understood the letters and postals received by the author, from physicians in different parts of the country, asking for reprints, or inquiring where the said article could be found or obtained—after it had been published and noticed by the Medical Press.

Diseases of the Maxillary Sinus.—*Indiana Medical Reporter*.
Evansville, Ind., April, 1880. 3 INQUIRIES.

Compound Dislocation of the Wrist.—Reprint from *Transactions of St. Louis Medical Society*, 1880. Four Wood-cuts. 63 INQUIRIES.

—1881—

Simple Methods to stop Accidental Hemorrhage. With four
Wood-cuts.—*Indiana Med. Reporter*. April, 1881. *Scientific American*
Supplement, No. 299, Sept. 24, 1881, page 4773. 198 INQUIRIES.

—1882—

Nathan R. Smith's Anterior Splint.—*Medical News*. April 1st,
1882, Vol. XI, No. 13, page 345.

Surgery in Children.—*St. Louis Med. and Surg. Journal*. June, 1882.

Cases from Prof. Borck's Clinic, at College for Medical Practition-
ers: Amputation in Children, Webbed Fingers, Club-foot, Bow-legs, Spinal
Curvature, etc. *St. Louis Medical and Surgical Journal*. December, 1882.

—1883—

Clinical Lectures: Extracts from. Fracture of Femur and other
Fractures.—*St. Louis Med. and Surg. Journal*. February, 1883.

Paralysis in Children, and Paralytic Contractions. Clinical Lecture
to private class.—*Philadelphia Med. and Surg. Reporter*. August 25, 1883.
209 INQUIRIES.

Spunge Grafting: Observations on.—*St. Louis Weekly Medical Review*.
November 3, 1883. Vol. VIII, No. 18. 96 INQUIRIES.

Ovarian Tumors: (Two Lectures) Diagnosis of, and Operation. Part I.
Cincinnati Obstetric Gazette. September, 1883. 403 INQUIRIES.

—1884—

Congenital Club-foot: Clinical Lecture at College for Medical Prac-
titioners.—*Archives of Pediatrics*. February number, 1884. 21 INQUIRIES.

On Permanent Wound Dressing.—*St. Louis Weekly Medical*
Review. March 22, 1884. Vol. IX, No. 12. 103 INQUIRIES.

Foreign Letters—to *Archives of Pediatrics*, October, 1884; and to
St. Louis Weekly Medical Review, July 26, August 2, 23 and 30, 1884.
Also Report to St. Louis Medical Society, of the International Medical
Congress at Copenhagen, September 13, 1884—same journal.

Home Again! A Synopsis of a Tour Abroad. The first part consists of
the report made, as a delegate to and a member of the 8th International
Medical Congress, Copenhagen, Denmark. August 1884, to the Medical
Society, with such additions as may be of interest to the medical profession.
The second part consists of general, sight-seeing, and other information of the
trip. (Through the kind notices and comments from the Editors of almost
every Medical Journal here, and several abroad, the applications for "Home
Again" were over 1,300 from all parts of the U. S. A., and Canada, and
over 100 from Europe.)

—1885—

Abnormal Positions of the Head.—Clinical Lecture with cases
to Private Class of Medical Practitioners. *Medical and Surgical Reporter*.
Philadelphia, Pa., January 31, 1885. Vol. LII, No. 5. 180 INQUIRIES.

Little Things: 1 Wood-cut. Farewell address to Private Class of Medi-
cal Practitioners. *New England Medical Monthly Journal*. Oct. 1885.

Remarks on Abdominal Surgery with 50 Cases. Read
before the Mississippi Valley Medical Society, Evansville, Ind., September,
1885. In full in the *Medical Record*, September 26, 1885. Vol. 28, No. 13,
whole No. 777. W. Wood & Co., Publishers, 65 & 58 Lafayette Place.
N. Y. City. Abstract from same in *Journal of the American Medical*
Association, Vol. V, No. 14, October 3, 1885. 65 Randolph St., Chicago,
Ills. *Medical and Surgical Reporter*, November 28, 1885. Vol. LIII,
No. 22, Philadelphia, Pa.

Extracts of Clinical Lectures. Exsudative Pleuritis.—*Archives of Pediatrics*, Vol. II, No. 9, September 15, 1885. John E. Potter & Co., Publishers, 617 Samson Street, Philadelphia, Pa.

Dislocations and Fractures of the Wrist, Simple and Compound. With 8 handsome Illustrations.—*Leonard's Illustrated Medical Journal*, Vol. VI, No. 4, October, 1885. Detroit, Mich.

—1886—

Change of Form of the Human Thorax.—A lecture delivered before my private class of Medical Practitioners, with 30 illustrations taken from life to demonstrate the changes of form the Thorax assumes during the different stages of Phthisis Pulmonaris, Emphysema, Exsudative Pleuritis, Spinal Curvatures. (Pamphlet.) The drawings are now at Marion Sim's Medical College.

—1887—

Ovarian Tumors. Diagnosis and Operation. Second and Revised Edition with Six Wood-cuts. (Pamphlet.)

—1888—

Diseases of and Operation on the Testicles, was published in full in the *New York Medical Record*, May 19th, 1888, Vol. 33, No. 2, Page 547; also, in the transactions of the Missouri Medical Association, 1888.

Cause of Congenital Club-Foot, "Argument in favor of the Mechanical Theory, based upon Personal Observation" in *St. Louis Weekly Medical Review*, Vol. XVIII, No. 24, Dec. 15, 1888. Discussion St. Louis Medical Society, January 12, 1889, same journal.

—1889—

Short Notes on the Surgical Diseases of Children, with Illustrations. Presented to the Section on Diseases of Children, at the meeting of the American Medical Association, at Newport, R. I., June 25-28, 1889. *Archives of Pediatrics*, August, 1889, page 569. *Philadelphia Medical and Surgical Reporter*, August 17th, 1889, Page 172. *Journal of the American Medical Association*, April 19, 1890.

—1890—

Treatment of Hip Diseases, "2nd Stage." Presented to the Surgical Section, 10th International Medical Congress, Berlin, Germany. *Medical and Surgical Reporter* of August 23, 1890, Vol. LXIII, No. 8, whole No. 1747, page 222. *Archives of Pediatrics*, October, 1890, Vol. VII, No. 82, page 756. *London Lancet*, Aug. 23, 1890 page 416.

—1893—

Spina Bifida. A paper read before the St. Louis Medical Society. Published in the *St. Louis Medical Birthnightly*.

—1894—

Report of 295 Cases of Fractures and Dislocations. Published in the *St. Louis Medical Mirror*. With handsome illustrations.

October number, : Femur.
November number, : Patella.

—1895—

January number, : Accidental Hemorrhage.
February number, : Tibia and Fibula.
March number, : Radius and Ulna.

(Will be continued at short intervals. "No reprints—send for the Journal.")

Synopsis of One Hundred Ovariectomies. *Medical Mirror*, September number, with six illustrations.

DR. EDWARD BORCK,
SURGEON.

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